

JESSOP STEEL COMPANY — WASHINGTON, PENNSYLVANIA 15301

MATERIAL SAFETY DATA SHEET

SECTION I

Date: September 1, 1989

Supersedes MSDS Dated: 11/11/85

MANUFACTURER'S NAME JESSOP STEEL COMPANY		EMERGENCY TELEPHONE NO. (412) 222-4000
ADDRESS (NUMBER, STREET, CITY, STATE & ZIP CODE) 500 Green Street, Washington, Pennsylvania 15301		
PRODUCT NAME: Nickel Base Alloys	CHEMICAL FAMILY Nonferrous Alloys	
GRADES Nickel and Nickel Alloys		

SECTION II - CHEMICAL COMPONENTS

	C.A.S. NUMBER	RANGE %	ACGIH TLV	OSHA PEL
Nickel	7440-02-0	24-99	1 mg/m ³	1 mg/m ³
Iron (limits for iron oxide fume)	1309-37-1	0-50	5 mg/m ³	10 mg/m ³
Copper (limits for fume)	7440-50-8	0-34	0.2 mg/m ³	0.1 mg/m ³
Chromium	7440-47-3	0-33	0.5 mg/m ³	1 mg/m ³
Molybdenum (limits for dust)	7439-98-7	0-30	10 mg/m ³	10 mg/m ³
Columbium	None	0-6	None Listed	None Listed
Tungsten	7440-33-7	0-5	5 mg/m ³	5 mg/m ³
Cobalt	7440-48-4	0-5	0.05 mg/m ³	0.05 mg/m ³
Titanium (limits for dust)	7439-98-7	0-2	10 mg/m ³	10 mg/m ³
Manganese (limits for dust)	7439-96-5	0-2	5 mg/m ³	5 mg/m ³
(limits for fume)			1 mg/m ³	1 mg/m ³
Silicon (limits for dust)	7440-21-3	0-2	10 mg/m ³	10 mg/m ³

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H ₂ O = 1)	8
VAPOR PRESSURE (MM HG.)	N/A	PERCENT VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR = 1)	N/A	EVAPORATION RATE (_____ = 1)	N/A
SOLUBILITY IN WATER	N/A	MELTING POINT	2600-2800F
APPEARANCE & ODOR	Metallic and odorless solid		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED)	N/A	FLAMMABLE LIMITS	LEL	UEL
		N/A		
EXTINGUISHING MEDIA	N/A			
SPECIAL FIRE FIGHTING PROCEDURES	N/A			
Unusual Fire Explosion Hazards	N/A			
National Fire Protection Association Rating (NFPA)				
Health: 2	Flammability: 0	Reactivity: 0		

USEPA SF



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SECTION V - HEALTH HAZARD DATA

(X) MAJOR EXPOSURE HAZARD:	INHALATION <input checked="" type="checkbox"/>	SKIN CONTACT <input type="checkbox"/>	SKIN ABSORPTION <input type="checkbox"/>	INGESTION <input type="checkbox"/>
NOTE: Steel products in the natural state do not present an inhalation, injection, or contact hazard. However, operations such as burning, welding, sawing, brazing, or grinding may result in the following effects if exposures exceed permissible limits: Symptoms: ACUTE: Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever." Symptoms consists of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after exposure. Dermatitis due to sensitization may occur in some individuals. CHRONIC: Excessive and repeated overexposure of nickel and chromium can cause various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract. Both chromium and nickel have been associated with upper respiratory cancer. Excessive and repeated overexposure of iron fumes can cause siderosis. Excessive and prolonged inhalation of manganese fumes can cause bronchitis, pneumonitis, lack of coordination. Excessive and prolonged overexposure of cobalt may cause an asthma-like disease with cough and dyspnea. Copper-pulmonary effects.				
EMERGENCY FIRST AID PROCEDURES In case of excessive exposure, remove to fresh air, administer oxygen and seek physician's assistance.				

SECTION VI - REACTIVITY DATA

STABLE <input checked="" type="checkbox"/>	UNSTABLE <input type="checkbox"/>	CONDITIONS TO AVOID N/A
INCOMPATIBILITY (MATERIALS TO AVOID) N/A		
DECOMPOSITION PRODUCTS N/A		
HAZARDOUS POLYMERIZATION <input checked="" type="checkbox"/>	MAY OCCUR <input type="checkbox"/> WILL NOT OCCUR <input checked="" type="checkbox"/>	CONDITIONS TO AVOID N/A

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	N/A
WASTE DISPOSAL METHOD Dispose of in accordance with federal, state and local regulations.	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	N/A

SECTION VIII - PERSONNEL PROTECTION INFORMATION

RESPIRATORY PROTECTION	For welding, burning, grinding and cutting operations, local exhaust ventilation should be provided. If fumes or dusts cannot be controlled with exhaust ventilation, an appropriate NIOSH-approved respirator should be used to prevent excessive inhalation exposure.
GLOVES	Gloves may be necessary to prevent skin sensitization and dermatitis.
EYE PROTECTION	Approved safety glasses or goggles should be worn when working with dusty metals.

PREPARED BY:

Jessop Steel Company

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